

REMARKS/ARGUMENTS

The Status of the Claims.

Claims 52 – 54, 56 – 59, 63, and 64 – 65 are pending with entry of this amendment, claim 62 is withdrawn. Claims 52 – 54, 56, and 58, are amended herein. Claim 64 is cancelled herein. Claim 65 is new. These amendments introduce no new matter and support is replete throughout the specification and claims as originally filed. These amendments are made without prejudice and are not to be construed as abandonment of the previously claimed subject matter or agreement with any objection or rejection of record.

The amendment to claim 52 was made to clarify that the O-RS can comprise an amino acid sequence that corresponds to any one of SEQ ID NOs: 48 – 53. Claim 53 was amended to clarify that a eukaryotic cell can comprise either a *p*-azido-L-phenylalanine O-RS or a *p*-propargyloxyphenylalanine O-RS. An additional amendment to claim 53 clarifies that a *p*-azido-L-phenylalanine O-RS can comprise any one of SEQ ID NOs: 48 – 53, or a conservative variant of any one of SEQ ID NOs: 48 – 53, wherein the conservative variant is at least 98% identical to any one of SEQ ID NOs: 48 – 53.

Support for the amendments to claims 52 and 53 can be found throughout the specification, e.g., at paragraphs 0011 and 0112 – 0115.

Support for new claim 65 can be found in the specification at, e.g., paragraphs 0043 and 0178 – 0179.

Claims 54, 56, and 58 were amended to correct dependence, as these claims now depend from new claim 65.

Applicants submit that no new matter has been added to the application by way of the above Amendment. Accordingly, entry of the Amendment is respectfully requested.

Compliance with the Sequence Listing Rules.

Applicants respectfully thank the Examiner finding that the specification complies with 37 CFR 1.821 – 1.825.

35 U.S.C. §112, First Paragraph – The Written Description is Adequate.

Claims 52 – 54, 56 – 59, and 63 - 64 were rejected under 35 U.S.C. §112, first paragraph, as containing subject matter which was not described in the specification as to reasonably convey to one skilled in the relevant art that the inventors had possession of the claimed invention at the time the application was filed. As claim 64 has been cancelled, Applicants will only address the rejections that apply to pending claims.

The Examiner alleged that the specification does not shed light on the broad scope of O-RSes of claim 52, i.e., O-RS molecules comprising any number of residues derived from SEQ ID NOs: 48 – 53, which O-RS molecules retain the capacity to aminoacylate a cognate O-tRNA with an unnatural amino acid. Without acquiescing to the rejection, Applicants herein amend independent claim 52 to clarify that only one O-RS, which comprises an amino acid sequence corresponding to any one of SEQ ID NOs: 48 – 53, is expressed in the eukaryotic cell.

With respect to claim 53, the Examiner alleged that the specification does not teach eukaryotic cells comprising a genus of O-RS molecules with different specificities that are co-expressed. Without acquiescing to the rejection, Applicants herein amend claim 53 to clarify that a eukaryotic cell can comprise either a *p*-azido-L-phenylalanine O-RS or a *p*-propargyloxyphenylalanine O-RS. An additional amendment to claim 53 is also made to clarify that a *p*-azido-L-phenylalanine O-RS can comprise any one of SEQ ID NOs: 48 – 53, or a conservative variant of any one of SEQ ID NOs: 48 – 53, wherein the conservative variant is at least 98% identical to any one of SEQ ID NOs: 48 – 53. Applicants respectfully note that the O-RS comprising any one of SEQ ID NOs: 48 – 53, or a conservative variant of any one of SEQ ID NOs: 48 – 53, wherein the conservative variant is at least 98% identical to any one of SEQ ID NOs: 48 – 53 preferentially aminoacylates the O-tRNA with only one unnatural amino acid, i.e., a *p*-azido-L-phenylalanine.

Thus, the methods of claims 52 – 54, 56 - 59, and 65 entail expressing only one O-RS, and the O-RS preferentially aminoacylates the O-tRNA with only one unnatural amino acid (e.g., a *p*-azido-L-phenylalanine or a *p*-propargyloxyphenylalanine). Such methods are described in great detail throughout the specification, e.g., at paragraphs 0103 – 0145 and in Example 3.

With respect to claim 63, the Examiner contends that an O-RS “derived from an *E. coli* synthetase” does not describe any structural characteristics of the O-RS and can read on any aminoacyl tRNA synthetase and variant thereof. As articulated in M. P. E. P. §2163, the written description requirement is met when the specification describes “the claimed invention in sufficient detail that one skilled in the art can reasonably conclude that the inventor was in possession of the

claimed invention". Applicants respectfully note that the specification describes, e.g., at paragraphs 0103 – 0132 and in the Example, screens and assays that can be used to derive an O-RS, i.e., an O-RS that can function orthogonally in yeast and aminoacylate a cognate O-tRNA with a p-azidophenylalanine or a p-propargyloxyphenylalanine, from an *E. coli* aminoacyl tRNA synthetase. Thus, the method of claim 63 is described in sufficient detail in the specification so that one of average skill in the art would know that Applicants were in possession of, e.g., method of producing in a yeast cell a protein of interest comprising a p-azidophenylalanine or a p-propargyloxyphenylalanine, which method includes providing a yeast cell comprising an O-RS derived from an *E. coli* aminoacyl tRNA synthetase.

Applicants respectfully note that the identifying characteristics of the O-RSes provided by the methods of claim 63 demonstrate the requisite possession of the invention. As articulated by the Federal Circuit, "(1) examples are not necessary to support the adequacy of a written description; (2) the written description standard may be met, even when actual reduction to practice of an invention is absent; and (3) there is no rule per se that an adequate written description of an invention that involves a biological macromolecule [e.g., an O-RS] must contain a recitation of known structure." *Falkner v. Inglis*, 79 USPQ2d 1001 at 1007 (Fed. Cir. 2006). See also *Capon v. Eshhar*, 76 USPQ2d at 1084 (Fed. Cir. 2005).

Given the teachings of the specification and the decisions articulated by the Federal Circuit, it is reasonable to conclude that one of skill would have been able to determine that Applicants had possession the subject matter of claim 63 at the time the instant application was filed. Applicants respectfully request that the rejection be withdrawn.

Appl. No. **10/826,919**
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Reply to the Office Action of **April 28, 2010**

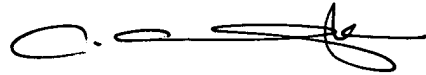
CONCLUSION

In view of the foregoing, Applicants believes all claims now pending in this application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the claims are deemed not to be in condition for allowance after consideration of this Response, a telephone interview with the Examiner is hereby requested. Please telephone the undersigned at (510) 337-7871 to schedule an interview.

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Respectfully submitted,



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